THE PENNY MAGAZINE

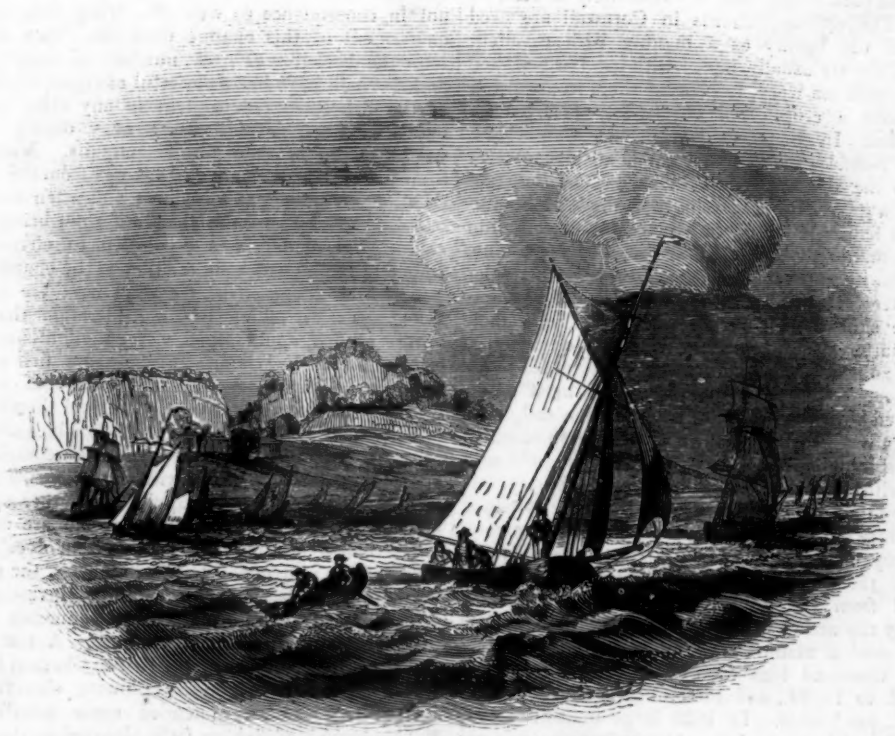
OF THE

Society for the Diffusion of Useful Knowledge.

318.] PUBLISHED EVERY SATURDAY. [MARCH 18, 1837

BRITISH FISHERIES.—No. VI.

THE SPRAT.



[Sprat-Boat, fishing off Purfleet on the Thames.]

MANY eminent naturalists have been induced to regard the sprat as the young of the herring and pilchard; but a minute investigation would have proved that the sprat is a distinct species, and the error could only have arisen from their having been deceived by the unscientific manner in which fishermen apply names. In Scotland the sprat is called the garvie herring. The features, however, in which it differs from the herring or pilchard are so obvious, that they may be ascertained even during the darkest nights. In the pilchard, the line of the abdomen is smooth; and in the herring this part is not serrated; but in the sprat the line of the abdomen consists of a strongly serrated edge, from which difference it may be safely concluded that the sprat is a distinct

[The Sprat.—*Clupea Sprattus.*]

species. The sprat is about six inches in length and above an inch in depth; colour of a dark blue and silvery white, with green reflections. The sprat is taken in the Forth, near Edinburgh, and on the eastern coast of Ireland, from Cork to Belfast. It is rarely met with on the south-western coasts of England, but is found on the Norfolk, Suffolk, Kent, and Essex coasts in large shoals. Like the herring and pilchard the sprat moves in shoals, the course of which appears equally capricious with its congeners, resorting to one part of the coast for a number of seasons, and afterwards suddenly deserting it, and unexpectedly appearing where their visits had previously been rare. In the summer months the sprat inhabits the deep water, and is then in roe. It is in the highest perfection as food when the season for fresh herrings has closed; and during November, and three or four succeeding months, an abundant supply is always to be obtained at Billingsgate market; where the retail dealers, and those who keep a stall in the public street, or carry the fish in baskets into every part of the metropolis, purchase their stock. There perhaps is not any fish which is an object of such general consumption as the sprat. The quality and flavour are much relished, and the abundant supply renders it an article of diet with the poor as well as with the rich. The sprat is too small for curing on the same extensive scale as the herring and pilchard; but it is pickled in various ways, and sometimes in a manner resembling anchovies; to which, however, it is greatly inferior, owing to the insoluble nature of the bones. Besides its use as food, the sprat has, within the last few years, been extensively employed as a manure, and, under some judicious regulations, the demand for this

purpose might probably benefit the fishermen without diminishing, to an injurious extent, the quantity required for consumption as food.

In Sir Humphry Davy's 'Elements of Agricultural Chemistry,' a work with which it is to be regretted farmers are so seldom acquainted, the following account is given of the use of fish as a manure:—"Fish," observes this eminent chemist, "forms a powerful manure, in whatever state it is applied; but it cannot be ploughed in too fresh, though the quantity should be limited. Mr. Young records an experiment, in which herrings spread over a field, and ploughed in for wheat, produced so rank a crop that it was entirely laid before harvest. The refuse pilchards in Cornwall are used throughout the county as a manure with excellent effects. They are usually mixed with sand or soil, and sometimes with sea-weed, to prevent them from raising too luxurious a crop. The effects are perceived for several years. In the fens of Lincolnshire, Cambridgeshire, and Norfolk, the little fish called sticklebacks are caught in the shallow waters in such quantities, that they form a great article of manure in the land bordering on the fens. It is easy to explain the operation of fish as a manure. The skin is principally gelatine, which, from its slight state of cohesion, is readily soluble in water; fat or oil is always found in fishes, either under the skin or in some of the viscera, and their fibrous matter contains all the essential elements of vegetable substances. Amongst oily substances blubber has been employed as manure. It is most useful when mixed with clay, sand, or any common soil, so as to expose a large surface to the air, the oxygen of which produces soluble matter from it. Lord Somerville used blubber with great success at his farm in Surrey. It was made into a heap with soil, and retained its power of fertilizing for several successive years. The carbon and hydrogen abounding in oily substances fully account for their effects, and their durability is easily explained from the gradual manner in which they change by the action of air and water." The quantity of sprats used as manure now amounts, it is believed, to many thousand tons each year. The price varies from 10*d*. to 1*s*. 3*d*., and sometimes has been as high as 1*s*. 6*d*., per bushel. In 1829 large quantities were purchased at 6*d*. per bushel. About forty bushels per acre is the quantity usually applied. Barge loads, containing 1500 bushels, were sent up the Medway to Maidstone in 1829, and the hop-grounds were abundantly manured; and so near London as Dartford the farmers stimulated the land with this species of manure.

The fishing-season commences in November, and the foggy and gloomy nights which prevail at that period, are considered most favourable to the fishermen. The finest fish are caught in the same manner as mackerel, but the largest quantities are taken by the stow-boats, manned with five or six men. Mr. Yarrell (p. 123, vol. ii. 'British Fishes') gives the following description of this mode:—"The stow-boat net goes with two horizontal beams: the lower one, twenty-two feet long, is suspended a fathom above the ground; the upper one, a foot shorter in length, is suspended about six fathoms above the lower one. To these two beams, or "balks," as they are called, a large bag net is fixed, towards the end of which, called the hose, the mesh is fine enough to stop very small fry. The mouth of the net, twenty-two feet wide and thirty-six feet high, is kept square by hanging it to a cable and heavy anchor at the four ends of the beams. The net is set under the boat's bottom; and a rope from each end of the upper beam brought up under each bow of the boat, raises and sustains the beam, and keeps the mouth of the net always open, and so moored that the tide carries everything into it. A strong rope, which runs through an iron ring at the middle of the upper beam, and is made fast to the middle of the lower beam, brings both beams together parallel, thus closing the mouth of the net when it is required to be raised." The meshes of the net are so small, that a pen could scarcely be inserted in them, and nothing but water will pass through. Hence the destruction of small fry is immense, and it is alleged that the scarcity of turbots, brills, soles, and other fish in those parts of the coast where they were once abundant is occasioned by the stow-boats. Some of the fishermen state that about twenty years ago large quantities of soles and a few turbots were caught off the coast of Kent without difficulty, but that these fish have now become scarce, and the fishermen are not in consequence so well off. They date the commencement of this change from the Peace of 1815. Now the discharge of great numbers of seamen at this period would have had a powerful effect on the interests of the fishermen independent of any other cause, as many who had served in the navy during the war would return to their former pursuits. Many other branches of industry were also affected from the influx of additional numbers at this time; and when depression ensued, the cause of the fluctuation not being always calmly sought for, was attributed to circumstances which in reality had little relation to the change. Destructive as the stow-boat system is, there are some fishermen who, taking into consideration the prolific nature of fish, doubt whether production is very injuriously diminished by it. Some years fish are more abundant than others, but the stow-boat fishing is nearly as active one year as another, and therefore some other agency must be in operation, to which abundance or scarcity is owing. The destruction complained of is not altogether unattended with advantages, for a cheap means of increasing the supply of another species of food is obtained; and many fishermen are employed. Nevertheless, as the stow-boat system does occasion considerable destruction to the young fry, the extent of the injury deserves to be carefully investigated by scientific men, more especially in connexion with the manner of obtaining fish for manure. A committee of the House of Commons on the British Channel Fisheries, which sat in 1833, made the following observations on this point, and recommended some interference:—"This branch of fishing (it is observed in the Report) has greatly increased, and there are at present from 400 to 500 boats engaged in stow-boating on the Kentish coast only, which remain upon the fishing-grounds frequently for a week together, not for the purpose of catching sprats, or any other fish to be sold as food in the market, but until they have obtained full cargoes of dead fish for the purpose of manuring the land. Now from the very destructive nature of this fishery, its being of modern introduction, and considering also the almost boundless extent to which a demand for its produce may be carried, if the system be permitted to continue without restriction, your committee have been inclined to question whether its further prosecution ought not to be entirely prevented; but upon the best consideration which they have been able to give to the subject, they recommend that at least it should not be permitted to be carried on with ground or drag-nets, between the 1st of April and the last day of November in every year; nor with drift or floating nets in the bay during the breeding season, namely, from the 1st day of May to the last day of August, within a league of the low-water mark, or in less than ten fathoms water; nor at any other time with nets of so small a mesh as is now generally used." None of these recommendations have yet been adopted. In the last session a bill was brought in, one of the objects of which was to prevent the destruction of the brood and spawn of fish. It was proposed that obsolete laws still in force, but not acted upon, should be embodied in a

single act, and that conservators of the fisheries should be appointed, from among the fishermen themselves, whose duty it should be to see that infractions of the law were not committed. This bill, however, did not go through the necessary stages, and the evil complained of still remains without a remedy.

The stow-boat fishermen are usually joint-proprietors, having larger or smaller shares in proportion to their means. The principal owner, for instance, possesses three shares, and is at the cost of keeping the boat, nets, and other materials in repair; the master takes a share and a half; the next man a share and a quarter; and if there be another man he has a single share; or if his place is supplied by an older apprentice, a share is allotted to him, and a three-quarters or one-half share to the youngest apprentice. The proceeds are generally divided into seven and a half or eight shares.

A LOOKING-GLASS FOR LONDON.—No. VII.

Paving, Lighting, Water, Sewers.

Some parts of the streets of London were *paved* at an early date—as Holborn in 1417, other parts of the city in the succeeding century, and Smithfield in 1614. The streets which were directed to be paved in 1539 were described to be "very foul, and full of pits and sloughs, very perilous and noyous, as well for the King's subjects on horseback as on foot, and with carriages." But down to the year 1762, London generally could not be said to be paved. The streets were generally "obstructed with stalls, sheds, sign-posts, and projections of various kinds; and each inhabitant paved before his own door in such manner, and with such materials, as pride, poverty, or caprice might suggest: there were no *trottoirs;* the footway was exposed to the carriage-way, except in some of the principal streets, where they were separated by a line of posts and chains." In 1762 the Westminster Paving Act passed, from which we may date all those improvements which have contributed to make London, as far as comfort and convenience are concerned, the finest, as it is the most populous, city in the world.

Jonas Hanway was an active advocate and promoter of the Westminster Paving Act. In his life, by Pugh, it is said, "It is not easy to convey to a person who has not seen the streets of this metropolis, before they were uniformly paved, a tolerable idea of their inconvenience and unseemliness. The carriage-ways were full of cavities, which harboured water and filth. The signs, extending on both sides of the way into the streets, at unequal distances from the houses, that they might not intercept each other, greatly obstructed the view, and, which is of more consequence in a crowded city, prevented the free circulation of the air. The footpaths were universally incommoded, even where they were so narrow as only to admit of one person passing at a time, by a row of posts set on edge next the carriage way. * * * How comfortless must have been the sensations of an unfortunate female, stopped in the street on a windy day, under a large old sign loaded with lead and iron, in full swing over her head, and perhaps a torrent of dirty water falling near her from a projecting spout, ornamented with the mouth and teeth of a dragon! These dangers and distresses are now at an end, and we may think of them as the sailor does of the storm which has subsided; but the advantages derived from the present uniformity and cleanliness of our streets can be known in their full extent only by comparing them with the former inconveniences."

There are no published details from which we can learn the extent of the pavements of London, or the annual expense of maintaining them. The management of them is in the hands of a great number of Boards, each having particular districts, and acting under various acts of Parliament. Mr. Williams, in his work on 'Subways,' taking for data the published accounts of the "city," and supposing it to be one-fourth of the entire metropolis, makes a conjectural calculation that the amount annually collected and expended on the streets of London is 216,000*l.*

The reader is aware that most of the great continental cities are very indifferently supplied with foot-pavements. Paris, for instance, though it has been very much improved since the Peace, is still "very perilous and noyous" to a London pedestrian of the present day.

We have given, in the first of these series of papers, some particulars respecting the state of the streets of London before they were generally *lighted.* Beckman, speaking of the time when the city was lighted with oil lamps, before the introduction of gas, says, "Oxford Street alone is said to contain more lamps than all Paris. The roads, even seven or eight miles round London, are lighted by such lamps; and as these roads from the city to different parts are very numerous, the lamps, seen from a little distance, particularly in the county of Surrey, where a great many roads cross each other, have a beautiful and noble effect." Mr. Williams, in 1828, says, "There are now in London four great gas-light companies, having altogether forty-seven gasometers at work, capable of containing, in the whole, 917,940 cubic feet of gas, supplied by 1315 retorts; and these consuming 33,000 chaldrons of coals in a year, and producing 41,000 chaldrons of coke; the whole quantity of gas generated annually being upwards of 397,000,000 of cubic feet, by which 61,203 private, and 7258 public or street lamps are lighted in the metropolis. Besides these, there are several other minor companies and public establishments that light with gas." There are at present sixteen metropolitan gas-companies, supplying the entire extent of London.*

The first attempt to supply London with *water* by means superior to those of the conduits, pumps, and water-bearers of former times, was made by a Dutchman, named Peter Morrys, in the reign of Queen Elizabeth. He contracted with the corporation to raise water by an engine, to be erected in an arch of London bridge, and to send it through pipes into the city. Four arches of the bridge were successively assigned to him and his descendants for the purpose; and the London Bridge Waterworks were in existence and operation till within these few years, having been only removed when the bridge was taken down.

Next after him came the well-known Hugh Middleton, citizen and goldsmith, and afterwards a baronet. His scheme was more magnificent, and having been executed with persevering earnestness as well as skill, it has effected the supply of a large portion of London for upwards of 200 years, and will doubtless continue to do so. This was the cutting of the canal, termed the New River. It derives it principal supplies from a spring at Chadwell, between Hertford and Ware, about twenty one miles north of London, and also from an arm of the river Lea, the source of which is near the Chadwell spring, in the proportion of about two-thirds of the former, and one-third of the latter. These united waters are conducted by an artificial channel, nearly forty miles in length, to four reservoirs, called the New River Head, at Clerkenwell. The New River Company having taken up the supply of that part of the city which used to be supplied from the London Bridge Waterworks, have erected an engine on the banks of the Thames, by which they are enabled, in case of any failure in the quantity supplied by the New River, to draw from the Thames to make up the defi-

* For an account of the introduction of gas into London, and the process of its manufacture, see 'Penny Magazine,' No. 159.

ciency. The Hampstead water-works were also incorporated with the New River, and a considerable quantity of water is brought from the ponds on Hampstead Heath to a reservoir near Tottenham Court Road.

About eight or nine years ago, considerable excitement prevailed in London respecting the quality of the water supplied by the different water companies to the inhabitants of the metropolis. The larger portion of them deriving their supplies from the Thames, it was contended that the river, receiving the drainage of about 140 sewers, as well as all the refuse of the various soap, lead, gas, and drug manufactories, was quite an unfit place from which to supply so essential an element of life. The subject was investigated by Parliament, and also by Dr. Roget, Mr. Brande, and the late Mr. Telford, acting as a commission under the Great Seal. The Committee of the House of Commons gave it as their opinion, "that the then present state of the supply of water to the metropolis was susceptible of and required improvement; that many of the complaints relative to the quality of the water were well founded; that the supply ought to be derived from other sources than those then resorted to; and that it should be guarded by such restrictions as would at all times ensure the cleanliness and purity of an article of such prime necessity." In 1831 Mr. Telford was directed by government to "make a survey, and report upon the best mode of supplying the metropolis with pure water." He did so, in the beginning of 1834; but it does not appear that anything material has since been done in the matter.

There are eight water-companies supplying London with water. These furnish to 191,066 houses a daily supply of 20,829,555 imperial gallons. The following details are taken from a Parliamentary paper of 1834:

Supply of Water to the Metropolis.

—	Houses and Buildings supplied.	Average Rates per House or Building, including large Consumers.	Total Quantity of Water supplied yearly.	Average Charge per 1000 Hogsheads computed in gross rental.	Average daily supply per House or Building, including Manufactories, &c.	Mean Elevation at which Water is supplied.	Highest Elevation at which Water is supplied.
		s. *d.*	Hhds.	*s.* *d.*	Galls.	Ft.	Ft.
New River..	70,145	26 6	114,650,000	17 1½	241	84½	145
Chelsea	13,892	33 3	15,753,000	29 0	168	85	135
Grand Junct.	8,780	48 6	21,702,567	24 1	350	100	151½
W.Middlesex	16,000	56 10	20,000,000	45 6	185	155	188
East London	46,421	22 6	37,810,594	28 0	120½	60	107
S. London ..	13,046	15 0	*	*	100	*	80
Lambeth ...	16,682	17 0	11,998,600	24 8	124	55	185
Southwark..	7,100	21 3	7,000,000	21 0	156	38	60
	191,066	30 1½	228,914,761	23 8	180½	82½	—

* Not known, no accounts having been kept.

The state and management of the *sewers* of London engaged the attention of a Select Committee of the House of Commons in 1834. The following brief statements are taken from their Report:—

The metropolis and adjacent districts, within a circle of ten miles from the Post Office, are divided into seven Trusts or Boards of Commissioners, for the purpose of maintaining the sewers, gutters, ditches, streams, watercourses, &c., in their respective districts, each having a separate and independent jurisdiction of its own. Five of these commissions are administered under local acts, but two of them take as their guide the old law of sewers, dated so far back as the 23rd of Henry VIII.

Some French engineers, who were sent over by their government in 1833, were astonished by nothing so much as the sewerage of London. The idea of forming drains in the streets of Paris only extends to surface-draining, while in London the water from the lowest cellars drains into the common sewers.

The commissioners of the city and liberties of London division have within their jurisdiction about 17,600 houses, the rental of which, assessed to the sewer-rate, is 792,904*l.* This comprehends, either wholly or in part, 113 parishes, of which the population is estimated at 122,316. The number of commissioners is 107; seven constitute a quorum; and the average number who attend the meetings is from twenty-five to thirty. The salaries of the officers only amount to 570*l.* per annum; and since the year 1756, about 114 new sewers have been built, wholly or in part. Very great improvements have taken place of late years in the management of this Trust; and the sewers are, generally speaking, in an unobjectionable state. Complaints have been made by several of the inhabitants, who have large and valuable properties in the most crowded parts of the city, of the want of drainage in their neighbourhoods—a deficiency which not only produces serious inconvenience, but has been prejudicial to health. But there are obstacles of considerable magnitude in the way of the necessary improvements. To construct sewers of sufficient depth to drain the properties in question, would endanger several buildings,—one or two of them ecclesiastical structures,—and produce considerable risk of loss and damage; and the commissioners have hitherto, chiefly in consequence of their defective powers, refrained from interfering.

The amount received and expended by the City of London division for five years is as follows:—

Year.	Received.	Balance in hand, after defraying Expenses.
1829 . . .	£13,307 14 1	£2787 18 7
1830 . . .	14,983 7 9	2822 13 7
1831 . . .	10,068 10 6	. . .
1832 . . .	12,041 5 1	. . .
1833 . . .	17,718 9 4	4379 1 11

The Westminster and part of Middlesex Board of Commissioners has a district containing fourteen parishes, and portions of six others. The amount collected within its district for the maintenance of the sewers was, for the ten years preceding 1833, 280,795*l.*, and the amount expended in the same period was 269,790*l.* It was stated before the Committee that the quantity of feet of open and covered sewers built at the cost of the Westminster and part of Middlesex Commission since 1807, is 9578, while, during the same period, the public, at their private cost, and without any assistance from the sewers' rate, built 91,708 feet.

Some inconvenience and injury have been experienced from the trusts acting independently of each other; but it has been found difficult to suggest a proper remedy. The following instance was adduced. Part of the sewerage of the Holborn and Finsbury district is conducted through the city into the Thames. The sewers of that district having been greatly improved and enlarged, the volume of water carried to the river became so great as to render the sewers of the city inadequate to carry off their contents, which, in addition to the waters from the high lands of the neighbouring trusts, were absolutely forced back into the houses, from the quantity which occupied the main sewer; and thus, after each fall of rain, the houses in the vicinity of the river were regularly inundated. This has now been remedied at great expense to the City of London district, and by dint of much time and labour. By the law of Henry VIII. the commissioners of sewers are allowed 4*s.* a day. This allowance has been generally dropped, but the commissioners of most of the trusts, in lieu of it, dine together on their quarterly days of meeting; the expenses of which are defrayed from the funds in their possession. The number of members of each commission is far too large—in the Westminster and part of Middlesex Board they amount to upwards of 200. The act of Henry VIII. constitutes six a quorum; and in a statement given of the meetings of the Westminster Trust during 1833, the average attendance was about a dozen.

LANDING OF JULIUS CÆSAR.

(From the 'Pictorial History of England.')

[Landing of Julius Cæsar.—After a Design by Blakey*.]

At ten o'clock on a morning in autumn (Halley, the astronomer, in a paper in the 'Philosophical Transactions,' has almost demonstrated that it must have been on the 26th of August, B.C. 55), Cæsar reached the British coast, near Dover, at about the worst possible point to effect a landing in face of an enemy,—and the Britons were not disposed to be friends. The submission they had offered through their ambassadors was intended only to prevent or retard invasion; and seeing it fail of either of these effects, on the return of their ambassadors with Comius, as Cæsar's envoy, they made that prince a prisoner, loaded him with chains,—prepared for their defence as well as the shortness of time would permit; and when the Romans looked from their ships to the steep white cliffs above them, they saw them covered all over by the armed Britons. Finding that this was not a convenient landing-place, Cæsar resolved to lie by till the third hour after noon, in order, he says, to wait the arrival of the rest of his fleet. Some laggard vessels appear to have come up, but the eighteen transports, bearing the cavalry, were nowhere seen. Cæsar, however, favoured by both wind and tide, proceeded at the appointed hour, and sailing about seven miles further along the coast, prepared to land his forces, on an open, flat shore, which presents itself between Walmer Castle and Sandwich*. The Britons on the cliffs, perceiving his design, followed his motions, and sending their cavalry and war-chariots before, marched rapidly on with their main force to oppose his landing anywhere. Cæsar confesses that the opposition of the natives was a bold one, and that the difficulties he had to encounter were very great on many accounts; but superior skill and discipline, and the employment of some military engines on board the war-galleys, to which the British were unaccustomed, and which projected missiles of various kinds, at last triumphed over them, and he disembarked his two legions. We must not omit the act of the standard-bearer of the tenth legion, which has been thought deserving of particular commemoration by his general. While the Roman soldiers were hesitating to leave the ships, chiefly deterred, according to Cæsar's account, by the depth of the water, this officer, having first solemnly besought the gods that what he was about to do might prove fortunate for the legion, and then exclaiming with a loud voice, "Follow me, my fellow-soldiers, unless you will give up your eagle to the enemy! I, at least, will do my duty to the republic and to our general!" leaped into the sea as he spoke, and dashed with his ensign among the enemy's ranks. The men instantly followed their heroic leader; and the soldiers in the other ships, excited by the example, also crowded forward along with them. The two armies were for some time mixed in combat; but at length the Britons withdrew in disorder from the well-contested beach.

* The little that is known of Blakey is chiefly as a historical painter, in which department of art he obtained some celebrity during the middle of the last century. Some of his designs will be found in an edition of Pope's works, and in Jonas Hanway's 'Travels through Persia,' published about that period. In conjunction with Mr. Hayman, Blakey made some designs for a set of prints intended to represent some of the principal events of early English history. This is considered as the first attempt to render our national history a subject for a series of pictorial representations; but the work was unsuccessful, and of the two or three engravings which appeared, it is not known whether they were published singly or together.—*Ed. Penny Mag.*

* Horsley (in Britannia Romana) shows that Cæsar must have proceeded to the north of the South Foreland, in which case the landing must have been effected between Walmer Castle and Sandwich. Others, with less reason, think he sailed southward from the South Foreland, and landed on the flats of Romney Marsh.

As their cavalry, however, was not yet arrived, the Romans could not pursue them or advance into the island, which Cæsar says prevented his rendering the victory complete.

The native maritime tribes, thus defeated, sought the advantages of a hollow peace. They despatched ambassadors to Cæsar, offering hostages and an entire submission. They liberated Comius, and restored him to his employer, throwing the blame of the harsh treatment his envoy had met with upon the multitude or common people, and entreating Cæsar to excuse a fault which proceeded solely from the popular ignorance. The conqueror, after reproaching them for sending of their own accord ambassadors into Gaul to sue for peace, and then making war upon him, *without any reason*, forgave them their offences, and ordered them to send in a certain number of hostages, as security for their good behaviour in future. Some of these hostages were presented immediately, and the Britons promised to deliver the rest, who lived at a distance, in the course of a few days. The native forces then seemed entirely disbanded, and the several chiefs came to Cæsar's camp to offer allegiance, and negotiate or intrigue for their own separate interests.

On the day that this peace was concluded, and not before, the unlucky transports, with the Roman cavalry, were enabled to quit their port on the coast of Gaul. They stood across the channel with a gentle gale; but when they neared the British coast, and were even within view of Cæsar's camp, they were dispersed by a tempest, and were finally obliged to return to the port where they had been so long detained, and whence they had set out that morning. That very night, Cæsar says, it happened to be full moon, when the tides always rise highest—"a fact at that time wholly unknown to the Romans*"—and the galleys which he had with him, and which were hauled up on the beach, were filled with the rising waters, while his heavier transports, that lay at anchor in the roadstead, were either dashed to pieces, or rendered altogether unfit for sailing. This disaster spread a general consternation through the camp; for, as every legionary knew, there were no other vessels to carry back the troops, nor any materials with the army to repair the ships that were disabled; and as it had been from the beginning Cæsar's design not to winter in Britain, but in Gaul, he was wholly unprovided with corn and provisions to feed his troops. Suetonius says, that during the nine years Cæsar held the military command in Gaul, amidst a most brilliant series of successes, he experienced only three signal disasters; and he counts the almost entire destruction of his fleet by a storm in Britain as one of the three.

Nor were the invaded people slow in perceiving the extent of Cæsar's calamity, and devising means to profit by it. They plainly saw he was in want of cavalry, provisions, and ships; a close inspection showed that his troops were not so numerous as they had fancied, and probably familiarized them in some measure to their warlike weapons and demeanour; and they confidently hoped, that by defeating this force, or surrounding and cutting off their retreat, and starving them, they should prevent all future invasions. The chiefs in the camp, having previously held secret consultations among themselves, retired, by degrees, from the Romans, and began to draw the islanders together. Cæsar says, that though he was not fully apprized of their designs, he partly guessed them, and from their delay in sending in the hostages promised from a distance, and from other circumstances, and instantly took measures to provide for the worst. He set part of his army to repair his shattered fleet, using the materials of the vessels most injured to patch up the rest; and as the soldiers wrought with an indefatigability suiting the dangerous urgency of the case, he had soon a number of vessels fit for sea. He then sent to Gaul, for other materials wanting, and probably for some provisions also. Another portion of his troops he employed in foraging parties, to bring into the camp what corn they could collect in the adjacent country. This supply could not have been great, for the natives had everywhere gathered in their harvest, except in one field; and there, by lying in ambush, the Britons made a bold and bloody attack, which had well nigh proved fatal to the invaders. As one of the two legions that formed the expedition were cutting down the corn in that field, Cæsar, who was in his fortified camp, suddenly saw a great cloud of dust in that direction. He rushed to the spot with two cohorts, leaving orders for all the other soldiers of the legion to follow as soon as possible. His arrival was very opportune, for he found the legion which had been surprised in the cornfield, and which had suffered considerable loss, now surrounded and pressed on all sides by the cavalry and war-chariots of the British, who had been concealed by the neighbouring woods. He succeeded in bringing off the engaged legion, with which he withdrew to his intrenched camp, declining a general engagement for the present. Heavy rains, that followed for some days, confined the Romans within their intrenchments. Meanwhile the British force of horse and foot was increased from all sides, and they gradually drew round the intrenchments. Cæsar, anticipating their attack, marshalled his legions outside of the camp, and, at the proper moment, fell upon the islanders, who, he says, not being able to sustain the shock, were soon put to flight. In this victory he attaches great importance to a body of thirty horse, which Comius, the Atrebatian, had brought over from Gaul. The Romans pursued the fugitives as far as their strength would permit; they slaughtered many of them, set fire to some houses and villages, and then returned again to the protection of their camp. On the same day the Britons again sued for peace, and Cæsar, being anxious to return to Gaul as quickly as possible, "because the equinox was approaching, and his ships were leaky," granted it to them on no harder condition than that of doubling the number of hostages they had promised after their first defeat. He did not even wait for the hostages, but a fair wind springing up, he set sail at midnight, and arrived safely in Gaul. Eventually only two of the British states sent their hostages; and this breach of treaty gave the Roman commander a ground of complaint by which to justify his second invasion.

* The operations of the Roman troops had hitherto been almost confined to the Mediterranean, where there is no perceptible tide. Yet, during their stay on the coast of Gaul, on the opposite side of the channel, they ought to have become acquainted with these phenomena. Probably they had never attended to the irregularities of a spring-tide.

ADVENTURES IN EGYPT AND SYRIA.

[Continued from No. 317.]

"At this time the camp was filled with sick and wounded, who died hourly, and no sooner dead than they were thrown into the intrenchments with as little ceremony as you would throw a sand-bag. This greatly intimidated their comrades; and nothing but murmuring and abuse was heard throughout the camp against their chief, who had brought them from their native country to be massacred and starved in this vile country; many at the same time, in the presence of their chief, declaring they would no more attempt to mount the breach,—at the same time saying they had mounted it in vain seven or eight different times, and found it was impossible to take possession of the place whilst the English remained there."

The fact is, the plague was now raging in Bonaparte's army. Even during the short siege of Jaffa, many men

died of this horrible disorder; and though all means were taken to conceal the true name and nature of the malady, the surgeons affirming that it was not the plague, and exposing themselves most courageously as a proof of their assertions, the soldiers could not long be deceived, and finally every one who felt a pain in the head or groin concluded that he was plague-struck.

Let us relieve for a moment the gloom and horror of this narrative. Before Kleber's expedition, which Cavaliero proceeds to notice, Murat was sent with his cavalry to make a reconnoissance towards the river Jordan. It was the custom of this fearless man, even when on an advanced post, always to undress himself and sleep in sheets—which he was careful to have of the finest quality. "If the enemy should surprise us some night," said Miot, "what would you do?" "*Eh bien!*" replied Murat, "I would mount my horse in my shirt, and so my soldiers would the better distinguish me in the dark." In a second expedition he routed part of the army of Damascus, and took all their tents, baggage, and stores. The people of Damascus are famous for the confection of sweetmeats, and their army had gone to the wars well supplied with these delicacies. A prodigious quantity was captured, and the Frenchmen passed the night in feasting upon them, and in singing and dancing. The soldiery called this "*la bataille des bons-bons*" (sugar-plum battle). Murat had only one horse wounded in it. We now return to our straightforward journal writer.

"General Kleber's division was despatched to keep the communication of Mount Lebanon and Jerusalem open, as everything now became so scarce that we were obliged to kill the wounded horses and camels to eat. All the standing corn in the fields was gathered, and boiled as a substitute for bread; some of the troops could not stomach the horse and camel's flesh, and some of the Italians* would say, '*di questo vene fo un buon regalo*,' or, I make you a present of this. Troops were now getting ready to mount the breach again, Colonel Broune desiring me to get his best uniform ready, and his boots without spurs, as a part of the cavalry were going to act as dismounted troops with the infantry to endeavour to take possession of the place; and accordingly the breach was mounted by a strong body of troops, who got into several parts of the town, and took possession of some guns, but were obliged soon to evacuate them, as the Turks were so numerous, together with the British troops, who encouraged them, and forced the French troops out of the town again. My companion, Jean Castignon, would follow Colonel Broune, and the poor fellow was unfortunately carried away by a grape-shot in the retreat. Colonel Broune ordered him to be buried, and not thrown into the intrenchments, as the common men were. The camp was now in the greatest confusion, all hopes of taking the town were given up; men fifty at a time would desert the camp, with their arms and baggage. Every one preparing for a retreat, Colonel Broune desired me to have a camel killed, and to preserve enough for ourselves, and to give the remainder to such officers of the regiment as would accept it, which they received as a great favour, and thought to be '*un buonissimo regalo*' (a very good present). He also ordered me to take a horse and a camel, and one of his servants, and go into the country to try if I could purchase anything from the Syrians. I accordingly took my arms and two of the leather bags, the only ones remaining, the others having been burned by the heat of the sun. In our march we were joined by another small party on the same errand. We travelled almost the whole day without meeting with anything; at length we proposed to give some money to the Egyptian and Syrian servants and send them further into the country, near Jerusalem, and wait for them ourselves until next morning; they returned punctually, and brought with them some bread, wine, onions, cheese, and fruit, with which we were much pleased, and I did not forget to promise my Egyptian a new suit of clothes for having been so brave, at which the fellow was so delighted that he kissed my hand in token of regard. My share was about two gallons of sweet wine, two dozen of dry onions, some dry figs, and about six pounds of bread, with about three gallons of muddy water, which I had by me. On our arrival at the camp I observed great confusion among the men, and particularly with the sick and wounded; Colonel Broune seemed very glad of my safe arrival, for having been absent from him nearly thirty-six hours, he thought I had been killed or taken prisoner. He almost immediately desired me to get all things ready to evacuate the camp, where we now heard nothing but cries and lamentations from the sick and wounded men, who considered themselves abandoned to the murderous Turks. A number of them would try to march along the sea-side, hoping they might be fortunate enough to fall into the hands of the English, or get as far as Jaffa, where they might be embarked. Hundreds of them were not able to proceed further than a mile, when they would drop on the sands and were left behind to die. Several pieces of cannon were buried in the sands; all the camp equipage, tents, and a great number of arms, were collected together and set on fire, in order that they might not fall into the hands of the enemy. However, we soon reached Jaffa, within a small distance of which the army halted, and some of the sick and wounded were embarked on board of Greek vessels, that directed their course towards Damietta, with very little provisions and water; but all their hopes were, that they would fall in with the English*."

The English were aware that the plague was raging in the French army. It therefore could not be expected that they would approach these infected vessels or be anxious to make any prisoners. On several occasions a humane regard was however shown towards the sufferers. Sir Sydney Smith upon their retreat from Acre followed the French, with his ships close along shore, as far as Jaffa: he cannonaded a body of them as they filed into that town, but the moment he perceived that it consisted of sick and wounded, he ordered the firing to cease, and allowed the convoy to pass unmolested.

"At Jaffa my stay was very short—only four days—as the army continued its march towards Egypt on the 28th of May. Provisions and water were still very scarce; I believe Colonel Broune had as good a stock as Bonaparte himself. Our party consisted of five, and we had only about two gallons of water, four or five bottles of wine, four or five pounds of bread, and ten or twelve pounds of horse and camel's flesh. This supply we thought, with great care, might be sufficient to serve us until we reached some part of Egypt, where we might procure more. All the horses in the army were a great deal worse off than the men, as sometimes they were obliged to give them salt water to drink, in consequence of which many of them died; and we could not use the flesh, as we had not, nor could we find, any fuel to make a fire to dress it, and the Turks, Albanians, and Syrian Arabs were pursuing us closely. In the month of June following, the army fell in with a field of water and sweet melons, the whole of which were devoured in a very short time. The enemy observing the great confusion among the men, fell upon General Kleber's division, which formed the rear-guard, and which suffered greatly from the Albanians. The general was himself surrounded by seven or eight of the Albanians, and defended himself desperately; it was reported that he killed three himself; but he was severely wounded by their sabres. A great number of standards were taken from the Turks. The next day

* Many Cisalpine Italians were in the expedition.

* Bourrienne, who was with Bonaparte, denies that any of the infected were shipped at Jaffa.

the army continued their march over the burning sands, and it is almost impossible to describe the sufferings of the sick and wounded men, who would drop on the sand twenty at a time, and they were there left in this dying condition. Many could not proceed from fatigue. Others swelled by drinking so much salt-water; they could not follow their comrades, and in this deplorable condition some would put an end to their existence by placing the muzzles of their muskets under their chins, and letting them off with their toes. No assistance was given to the sick and wounded that were left behind. At length it was reported that Bonaparte had ordered some drugs to be given to the sick and wounded, to put an end to their existence."

Cavaliero here alludes to the report, which was universally believed in the army at the time, that Bonaparte had ordered doses of opium to be given to a number of plague patients at Damietta, who were unable to follow the retreating army, and certain of being barbarously murdered by the fast advancing Turks if they were left behind alive. No point in the life of Napoleon has been more vehemently debated than this. Some of his partisans have denied it altogether, but others have satisfied themselves with reducing the number of the victims from sixty or a hundred, to eight or six, or two or three, and with justifying the deed as a merciful dispensation, inasmuch as it abbreviated the sufferings of a few whose disease was hopeless, and tended to prevent the contagion from spreading. In the latter years of his life, the dethroned emperor allowed that he held a consultation with Desgenettes, the chief surgeon, in which poison was spoken of; he even argued that he should have been justifiable in administering the poison, and said that, under the circumstances, he would have advised the same treatment for his own son, and demanded it for himself; but it seems to us he never clearly admitted that he did administer the poison, or order it to be administered. The report which was spread in Europe soon after, of his poisoning 500 sick Frenchmen, was a gross absurdity; but that a deep-rooted belief of his having so disposed of a few unfortunate individuals obtained in the army on its retreat from Jaffa, can admit of no doubt whatever, and when coupled with the frightful loss they had sustained at Acre, and with their actual and extreme sufferings, we may almost be surprised that the irritated soldiers did not shoot him. It appears from Cavaliero that he was at one moment in danger of this; and we know no single anecdote more characteristic of the man, than the one contained in our Italian's next paragraph.

"The troops upbraided him for this with most bitter language, representing the men as dying in consequence of this cruel order, and exclaiming, 'Shoot the tyrant!' 'Shoot the Corsican rebel!' with many other abusive words; but he, with the utmost fortitude, listened to their reproaches, and answered them coolly in the following words:—'For shame! for shame! You are too many to assassinate me, and too few to intimidate me!' (*Vous êtes trop pour me tuer, et trop peu pour m' intimider!*) The soldiers exclaimed with astonishment, 'What courage the fellow has got!' (*Quel courage a ce —— là*) and so nothing happened to him."

"On the return of the army from Acre, we began to find ourselves approaching into Egypt by the number of Arabs and Mamelukes that we daily saw. Also, some date-trees were now and then to be seen, which we immediately cut down to get the interior part of the tree, containing a pleasant waterish liquor, as also the young branches. Many also began to search for water, which induced me to ask Colonel Broune's permission to go in quest of some, as the few drops we had remaining in our leathern bag were boiling hot from the heat of the sun. He then told me the dangerous consequences of parting from the main body of the army, explaining to me that there was as much danger from *nos soldats* (our own soldiers) as from the Arabs and Mamelukes. But we being so distressed for water, I at length prevailed, and Colonel Broune let me have two horsemen to accompany me. I took my leather bag and a cord which I had by me, and cut up one of my boots to serve as a bucket. Colonel Broune let me take his ostrich-egg, which held about three pints; it was very beautifully ornamented with gold. We left the army on the right, and after proceeding about two miles, we observed a number of men together, which, on our nearer approach, we found were a part of our army,—above 300 of the infantry, who had met with a well of brackish water, but would not let us come near it, pointing their muskets at us, and declaring they would shoot us if we dared approach the well. Finding it was utterly impossible even to get a drop to moisten our lips, we proposed going towards a sand-hill, hoping to meet with some date-trees, that being a sure sign of water being near at hand. On our approaching the hill, to our great astonishment we beheld about sixty Arabs and Mamelukes, who immediately discharged their muskets at us, which wounded me in my left leg; and I had only time to discharge my pistols at them when my horse fell under me, being wounded in several places. My right leg was unfortunately caught under the horse in falling; they then attacked me while down, and with my pistol I parried off several blows aimed at my head; at last I was unfortunately wounded in my hand, and then I received a violent blow upon my head which deprived me of my senses. On my recovering, I found they were gone; I supposed they imagined I was dead, or probably some of our rear-guard had heard the discharge of their muskets and appeared in sight, which had alarmed them and caused their retreat. My two companions, I found, lay dead near me. I remained nearly twenty-four hours under the horse, constantly expecting some one or other would come to put an end to my sufferings. I tried all means to extricate myself from under the horse, but all my exertions proved ineffectual, being quite blinded with the blood gushing from the wounds in my head running down my face, and the wind blowing the sand constantly over it made it dry and hard, and I not having strength left to rub it off. But the Almighty through his mercy spared my life. In this state I heard the voices of men, and, on their near approach, I found by their language they were roving Arabs, going in search of plunder. When they pulled me from under the horse, they perceived I was not quite dead, though entirely speechless; however, I made such signs as I was able, putting my hands to my mouth, signifying I wanted something to wet my lips, being so parched, which they understood, and poured some water into my mouth;—and I verily believe these few drops of water saved my life. On my recovering a little, they saw the sad condition I was in and had compassion on me and placed me upon an ass, with my face downwards. In this state they carried me till the evening. When they stopped for the night, they laid me on the sand, and gave me more water to drink; they also washed my wounds, and the blood from my face and eyes; and so, by this means, I was enabled to see. We remained on the sand till the morning, when they mounted me a second time as before. They continued their journey, but I could form no idea where they were carrying me to. The motion of the ass gave me great pain, and caused my wounds to bleed again, which they stopped by putting sand in them."

[To be continued.]

*** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

LONDON: CHARLES KNIGHT & CO., 22, LUDGATE STREET.

Printed by William Clowes and Sons, Stamford Street.